

## REMARKS

Herein, the "Action" or "Office Action" refers to the Office Action dated 1/24/2005.

Applicant respectfully requests reconsideration and allowance of all of the claims of the application. Claims 7-9, 19-24, 27-29, and 55 are presently pending. Claims amended herein are 7, 8, 9, and 19. Claims withdrawn or cancelled herein are 1-6, 10-18, 25, 26, 30-54, and 56. New claims are added herein are none.

### Substantive Claim Rejections

#### Claim Rejections under §§ 102 and 103

The Office rejects all pending claims under §§ 102 or 103. For the reasons set forth below, the Office has not made out a *prima facie* case of obviousness (i.e., §103). Accordingly, Applicant respectfully requests that the rejections be withdrawn and the case be passed along to issuance.

The Office's rejections are based upon the following references (alone or in combination):

- **Bharali:** *Bharali et al.*, US Patent No. 6,216,163;
- **Takagi:** *Takagi et al.*, US Patent No. 6,272,148;
- **Kikuchi:** *Kikuchi et al.*, US Patent No. 6,614,763;
- **Nishigami:** *Nishigami et al.*, US Patent No. 5,890,010;
- **TAPI 3.0:** *Microsoft*, White Paper on "TAPI 3.0 Connection and Media Services (1999);
- **Linzer:** *Linzer et al.*, US Patent No. 6,005,621.

## Overview of the Application

The Application describes techniques directed towards the fast dynamic measurement of connection bandwidth between two entities on a dynamic network. A dynamic network is a communications network where there is no assurance that both packets of a pair of identical packets are handled in an identical manner while in transit on the communications network.

The described measurement techniques utilizes a single pair of packets (i.e., a "Packet-Pair") to calculate bandwidth between two entities on a network. This calculation is based upon the Packet-Pair technique.

On its journey across a dynamic network (e.g., the Internet), a packet may be compressed by communication equipment and modems. This compression shrinks the size of the packet; thus, it can distort the bandwidth calculation using such a shrunken packet. To avoid this distortion, the techniques described in the Application employ non-compressible packets. Therefore, a packet cannot be compressed during its journey.

In addition, on its journey across a dynamic network, packets may be rerouted, delayed, misrouted, and the like. These momentary delays may result in a momentary incorrect bandwidth calculation. This problem is ameliorated by using a history list at the client that keeps track of recent measurements. The client returns the median of that list to the server. That median is the specified bandwidth.

## Ancipation Rejections

### Based upon Bharali

The Office rejects claims 1, 3, 6, 8-14, 16, 19, 21, 24, 27-31, 33, 37-40, 42-46, 48, and 51-52 under USC § 102 as being anticipated by **Bharali**. With the amendments herein, Applicant submits that these rejections are moot. Applicant has amended or withdrawn these rejected claims. Those claims that remain are address below in a discussion of the Office's obviousness rejections.

## Obviousness Rejections

### Based upon Bharali and Takagi

The Office rejects claims 2, 15, 20, 32 and 47 under USC § 103(a) as being unpatentable over **Bharali** and **Takagi**. With the amendments herein, Applicant submits that these rejections are moot. Applicant withdraws these rejected claims from consideration.

### Based upon Bharali and Kikuchi

The Office rejects claims 4-5, 17-18, 22-23, 34-35, and 49-50 under USC § 103(a) as being unpatentable over **Bharali** and **Kikuchi**. With the amendments herein, Applicant submits that these rejections are moot. Applicant withdraws rejected claims 4-5, 17-18, 34-35, and 49-50 from consideration. Claims 22-23 are now dependent upon an amended independent claim.

**Based upon Bharali, Nishigami and Microsoft Paper: TAPI 3.0**

The Office rejects claim 7 under USC § 103(a) as being unpatentable over **Bharali, Nishigami, and Microsoft Paper: TAPI 3.0**. Applicant respectfully traverses the rejection of this claim. Based on the reasons given below, Applicant asks the Office to withdraw this rejection.

**Claim 7**

This claim recites:

via a communications network, receiving at least a pair of non-compressible packets having measurable characteristics;

calculating bandwidth based upon, measurable characteristics of at least the pair of non-compressible packets;

determining if the calculated bandwidth is outside a given range of believability for calculated bandwidth;

if the calculated bandwidth is determined to be outside the given range of believability, then querying a modem of an entity about a bandwidth setting of the modem.

In the Action, the Office indicates the following:

32. As to claim 7, Bharali teaches the method of claim 1, but does not explicitly teach verifying the result of a bandwidth outside an expected range by querying an entity's modem.

In a related art, Nishigami teaches that a data processing apparatus that verifies abnormal information/conditions (results) is known in prior arts (Nishigami, C1: L19-27). However, Nishigami does not explicitly teach querying a modem for bandwidth. In another related art, Microsoft teaches a service that can detect the capabilities (bandwidth) of a device on a line (TAPI) (page 5, Finding a Suitable Line).

1 So, the Office concludes:

2  
3 Therefore, it would have been obvious to one of ordinary skill in the art at the  
4 time of the invention to include verifying abnormal results as taught by Nishigami by  
5 querying a modem for its bandwidth as taught by Microsoft in the Bharali invention  
6 because, by verifying what appears to be abnormal bandwidth measurements, the  
7 accuracy of the data collected is kept in tact.

8  
9 Nishigami discloses a system that reacts to an abnormal (i.e., "exception")  
10 situation for a microprocessor. Applicant submits that a determination of an  
11 existence of "exception" condition for a microprocessor is not similar to a  
12 determination that network bandwidth calculations may not be accurate.

13 Furthermore, Applicant submits that an "exception" condition for a  
14 microprocessor is not in the same or similar field of endeavor as calculating  
15 bandwidth over a network. Therefore, one of ordinary skill in the art would have  
16 not motivation to combine the teachings of Nishigami with Bharali or Microsoft  
17 Paper: TAPI 3.0.

18 While Microsoft Paper: TAPI 3.0 may disclose the capability or  
19 mechanism for querying a modem, it does not disclose the specific conditions  
20 (e.g., "if the calculated bandwidth is determined to be outside the given range of  
21 believability") when a query is triggered nor does it disclose what information  
22 (e.g., "bandwidth setting of the modem") is specifically sought under those  
23 conditions.

24 Therefore, Applicant submits that the combination of teachings does not  
25 disclose all of the elements and features of this claim. Furthermore, Applicant

1 submits that the Office has not provided objective evidence to show why one of  
2 ordinary skill in the art would be motivated to combine the teachings that are  
3 disclosed. Accordingly, Applicant asks that the Office withdraw its rejection of  
4 these claims.

5  
6 Claims 8 and 9

7 These claims ultimately depend upon independent claim 7. As discussed  
8 above, claim 7 is allowable.

9 In addition to its own merits, each of these dependent claims is allowable  
10 for the same reasons that its base claim is allowable. Applicant submits that the  
11 Office withdraw the rejection of each of these dependent claims because its base  
12 claim is allowable.

13  
14 Based upon Bharali and Linzer

15 The Office rejects claims 25 and 26 under USC § 103(a) as being  
16 unpatentable over **Bharali** and **Linzer**. Applicant respectfully traverses the  
17 rejection of these claims. Based on the reasons given below, Applicant asks the  
18 Office to withdraw the rejections of these claims.

19 Applicant has withdrawn claims 25 and 26, but incorporated their elements  
20 and features into amended claim 19.

Claim 19

This claim (as amended) is as follows:

via a dynamic network, sending at least a pair of non-compressible packets, the dynamic network being a communications network having no assurance that both packets of a pair of identical packets are handled in an identical manner while in transit on the communications network;

receiving a bandwidth calculation based upon measurements related to at least the pair of non-compressible packets;

selecting a file formatted for a given bandwidth that is equal to or less than the bandwidth calculation;

sending the selected file via the dynamic network

The Office indicates the following:

34. As to claims 25-26, Bharali teaches the method of claim 19, but does not explicitly teach sending a file or subfile formatted for the given calculated bandwidth.

In a related art, Linzer teaches a video server delivering high resolution video over high bandwidth connections and low resolution video over low bandwidth connections, wherein the differing resolutions videos (*subfiles*) are derived from the same video source (*file*) (Linzer, C7: L48-57).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to include choosing appropriately formatted files for a given bandwidth as taught by Linzer in the Bharali invention because a version of a file formatted for low bandwidth would be considered poor quality to users with high bandwidth connections (Linzer, C3: L1-15).

1 The immediately above paragraph by the Office regarding what would be  
2 obvious to one of ordinary skill may or may not be true, but it is not what this  
3 claim recites.

4 This claim recites file selection based upon a bandwidth *calculation* and  
5 then the file is sent over the very same network for which the bandwidth has been  
6 calculated. Applicant submits that the cited references (alone or in combination)  
7 do not disclose this. Furthermore, the Office has not provided any objective  
8 evidence (found in the references themselves) for combining the teaching actually  
9 disclosed in the references.

10 Therefore, Applicant submits that the combination of teachings does not  
11 disclose all of the elements and features of this claim. Furthermore, Applicant  
12 submits that the Office has not provided objective evidence to show why one of  
13 ordinary skill in the art would be motivated to combine the teachings that are  
14 disclosed. Accordingly, Applicant asks that the Office withdraw its rejection of  
15 these claims.

16  
17 Claims 20-24, 27-29, and 55

18 These claims ultimately depend upon independent claim 19. As discussed  
19 above, claim 19 is allowable.

20 In addition to its own merits, each of these dependent claims is allowable  
21 for the same reasons that its base claim is allowable. Applicant submits that the  
22 Office withdraw the rejection of each of these dependent claims because its base  
23 claim is allowable.  
24  
25



## Dependent Claims

In addition to its own merits, each dependent claim is allowable for the same reasons that its base claim is allowable. Applicant submits that the Office withdraw the rejection of each dependent claim where its base claim is allowable.

## Conclusion

All pending claims are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the application. If any issues remain that prevent issuance of this application, the Office is urged to contact the undersigned attorney before issuing a subsequent Action.

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Respectfully Submitted,

By: 

Kasey C. Christie  
Reg. No. 40559  
(509) 324-9256 x232  
[kasey@leeandhayes.com](mailto:kasey@leeandhayes.com)  
[www.leeandhayes.com](http://www.leeandhayes.com)

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